

IV.—*Notes on the Physiography and Geology of Aroostook County, Maine.*

By L. W. BAILEY.

(Read May 25, 1887.)

In a paper read before this Society in May, 1886, and entitled "On the Silurian System of Northern Maine, New Brunswick and Quebec," the author, after making certain comparisons between the rocks of these several districts, was led to express the opinion that considerable areas in Aroostook County, Maine, which have been long regarded and represented as of Devonian age, were more properly to be referred to the Silurian. Having since had an opportunity of making a more extended examination of portions of the county, as well as the regions in New Brunswick and Quebec with which the former was compared, he desires, in the present paper, to state a few additional facts which tend to confirm the opinions then expressed, and at the same time to offer a few suggestions, which may be of service to future explorers in the same field.

The portions of Aroostook County which have been personally visited by the author include the valley of St. John River, in so far as this forms a portion of the international boundary—in other words to St. Francis River, as well as beyond the latter to its tributary, the Allegash—and secondly, the country lying to the south and west of this valley, so far as it is included between Fish River and Aroostook River. It is to the latter region, lying almost wholly within the State of Maine, that more particular reference will here be made.

A glance at the topography and physical features of this region, as exhibited in any good map, will be found to reveal some features of interest, which may help to explain its geological structure. Of these, perhaps the most noticeable are the peculiar position and character of the first or eastern branch of Fish River. This latter is really little more than a chain of lakes, embracing not less than five distinct basins, Long, Mud, Square and Eagle Lakes, varying from two to twelve miles in length, and from one to two in breadth, which are connected with each other, for the most part, only by short thoroughfares. They are also very nearly upon a common level, and are bordered by land which, relatively to the lakes, has usually but little elevation. In other words, they occupy the deeper portions of a somewhat irregular trough, extending from the eastern limits of Long Lake, through Mud and Square Lakes, to Eagle Lake, and even beyond the latter, up the western branch of Fish River to Nadeau Lake, a total distance of twenty-five miles, with a probable change of level to the forks of not more than three or four feet. To the north, this trough is separated from the valley of the St. John by a range of somewhat prominent hills; but at its eastern end, in Long Lake, approaches the latter so nearly that not more than seven miles of distance divides the two. Thus, by simply traversing this short interval, from Fenwickville on the St. John to the head of Long Lake, one has before him a continuous water-